



## **Education on atmospheric processes by generation of new data using mobile sensors**

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Since 2007 the Laboratory of the Atmosphere and Oceans (LAO) of the Catalan Institute of Climate Science (IC3) has initiated several activities of outreach and workshops with students and citizens. These activities share a common aim, which is that students or citizens understand the processes occurring in the atmosphere and in our environment while they generate real data of enough scientific quality. Students and citizens should become actors with their questions, data and results. Another objective is to introduce them as participants in the scientific community, following discussions with other student and citizen groups that have also been part of similar workshops.

Greenhouse gases atmospheric concentrations, meteorological parameters and radiation measurements, allow the participants gaining general knowledge about atmospheric processes, and about the relationships between the ecosystems and the atmospheric water, greenhouse gases, temperature and climate extremes.

The LAO-IC3 has designed, using Arduino technology, a new educational tool with the aim of increasing the scientific community-citizenship interaction. This tool is called Air Enquirer and it consists of a multi-sensor box, measuring IR/Vis light, humidity, pressure, temperature and CO<sub>2</sub> concentration. The Air Enquirer, designed for both field sampling and indoor use, can be used to obtain real atmospheric data or to experience in the classroom, and will be made available for schools with a booklet with a variety of research activities that can be done with it to improve students' science process skills.